BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

IN THE CLAIMS:

1. (currently amended) A method of anodizing a pressed and sintered valve metal anode to a target formation potential, comprising:

a) immersing the pressed valve metal anode in an anodizing electrolyte to wet the anode and develop an anode-electrolyte system; and

b) subjecting the anode-electrolyte system to ~~potential~~ pulses of electrical potential that are ramped up from a starting voltage to a target voltage over a formation time,

wherein said anodizing electrolyte is maintained at about 40 degrees Celsius or less during the anodizing process.

2. (currently amended) ~~The method of Claim~~A method according to claim 1, further comprising: ~~the step of~~ agitating the electrolyte.

3. (currently amended) ~~The method of Claim~~A method according to claim 2, wherein the agitating step comprises stirring the electrolyte.

4. (currently amended) ~~The method of Claim~~A method according to claim 2, wherein the agitating step comprises subjecting the electrolyte to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies during selected time intervals of the waveform period.

5. (currently amended) ~~The method of Claim~~A method according to claim 2, wherein the agitating step comprises subjecting the electrolyte to stirring induced by a mechanical impeller and to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies during selected time intervals of the waveform period.

6. (currently amended) ~~The method of Claim~~A method according to claim 1, further comprising the step of agitating the electrolyte only during time periods between ~~potential~~ pulses of electrical potential.

7. (currently amended) ~~The method of Claim~~A method according to claim 6, wherein the agitating step comprises stirring the electrolyte.

8. (currently amended) ~~The method of Claim~~A method according to claim 6, wherein the agitating step comprises subjecting the electrolyte to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies during selected time intervals of the waveform period.

9. (currently amended) ~~The method of Claim~~A method according to claim 6, wherein the agitating step comprises subjecting the electrolyte to stirring induced by a mechanical impeller and to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies during selected time intervals of the waveform period.

10. (currently amended) ~~The method of Claim~~A method according to claim 1, wherein the subjecting step further comprises:
subjecting the anode-electrolyte system to potential and current pulses; and
allowing the pulse amplitude of the potential pulses to increase until the pulse amplitude reaches the target voltage~~formation potential~~.

11. (currently amended) ~~The method of Claim~~A method according to claim 10, wherein the current setting maintains a constant current until the pulse amplitude reaches the target voltage~~formation potential~~.

12. (currently amended) ~~The method of Claim~~A method according to claim 11, wherein the subjecting step further comprises continuing to subject the anode-electrolyte system to current pulses for a hold time after the pulse amplitude

reaches the target voltage~~formation potential~~ until the current flow through the anode-electrolyte system drops to a predetermined level.

13. (currently amended) ~~The method of Claim~~A method according to claim 1, wherein the subjecting step further comprises:
delivering the ~~potential~~ pulses of electrical potential having a pulse amplitude, and pulse width and a duty cycle to the anode-electrolyte system; and
modifying the duty cycle of the potential pulses as the pulse amplitude approaches the target voltage~~formation potential~~.

14. (currently amended) ~~The method of Claim~~A method according to claim 13, wherein the modifying step further comprises decreasing the duty cycle as the pulse amplitude approaches the target voltage~~formation potential~~.

15. (currently amended) ~~The method of Claim~~A method according to claim 1, wherein the subjecting step further comprises:
delivering the ~~potential~~ pulses of electrical potential having a pulse amplitude, and a frequency to the anode-electrolyte system; and
modifying the pulse width and the pulse frequency as the pulse amplitude approaches the target voltage~~formation potential~~.

16. (currently amended) ~~The method of Claim~~A method according to claim 15, wherein the subjecting step further comprises delivering the ~~potential~~ pulses of electrical potential to the anode-electrolyte system for a predetermined hold time after achievement of the target voltage~~formation voltage~~ until the current flow through the anode-electrolyte system has dropped to a predetermined level.

17. (currently amended) ~~The method of Claim~~A method according to claim 15, further comprising the step of agitating the electrolyte in the time between delivered ~~potential~~ pulses of electrical potential.

18. (currently amended) ~~The method of Claim~~A method according to claim 17, wherein the agitating step further comprises subjecting the electrolyte to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies.

19. (currently amended) ~~The method of Claim~~A method according to claim 1, wherein the subjecting step further comprises:
delivering the potential pulses having a pulse amplitude, and pulse width, and a frequency to the anode-electrolyte system; and
decreasing the pulse width and decreasing the frequency of the ~~potential~~ pulses of electrical potential as the pulse amplitude approaches the target voltage~~formation potential~~.

20. (currently amended) ~~The method of Claim~~A method according to claim 19, wherein the subjecting step further comprises delivering the ~~potential~~ pulses of electrical potential to the anode-electrolyte system for a predetermined hold time after achievement of the target ~~formation~~ voltage until the current flow through the anode-electrolyte system has dropped to a predetermined level.

21. (currently amended) ~~The method of Claim~~A method according to claim 19, further comprising the step of agitating the electrolyte in the time between delivered ~~potential~~ pulses of electrical potential.

22. (currently amended) ~~The method of Claim~~A method according to claim 21, wherein the agitating step further comprises subjecting the electrolyte to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies.

23. (currently amended) ~~The method of Claim~~A method according to claim 1, wherein the subjecting step further comprises:

delivering the ~~potential~~ pulses of electrical potential having pulse amplitudes and pulse widths to the anode-electrolyte system; and

decreasing the pulse width of the potential pulses as the pulse amplitude approaches the target voltage~~formation potential~~.

24. (currently amended) ~~The method of Claim~~A method according to claim 23, wherein the subjecting step further comprises delivering the ~~potential~~ pulses of electrical potential to the anode-electrolyte system for a predetermined hold time after achievement of the target ~~formation~~ voltage until the current flow through the anode-electrolyte system has dropped to a predetermined level.

25. (currently amended) ~~The method of Claim~~A method according to claim 23, further comprising the step of agitating the electrolyte in the time between delivered ~~potential~~ pulses of electrical potential.

26. (currently amended) ~~The method of Claim~~A method according to claim 25, wherein the agitating step further comprises subjecting the electrolyte to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies.

27. (currently amended) ~~The method of Claim~~A method according to claim 1, wherein the subjecting step further comprises delivering the ~~potential~~ pulses of electrical potential to the anode-electrolyte system for a predetermined hold time after achievement of the target ~~formation~~ voltage until the current flow through the anode-electrolyte system has dropped to a predetermined level.

28. (currently amended) ~~The method of Claim~~A method according to claim 27, further comprising the step of agitating the electrolyte in the time between delivered ~~potential~~ pulses of electrical potential.

29. (currently amended) ~~The method of Claim~~A method according to claim 28, wherein the agitating step comprises subjecting the electrolyte to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies.

30. (currently amended) ~~The method of Claim~~A method according to claim 1, wherein the subjecting step further comprises:

delivering the pulses of electrical potential and current pulses having pulse amplitudes and pulse widths to the anode-electrolyte system; and

decreasing the peak height of the current pulses as the ~~potential pulse~~ amplitude of the pulses of electrical potential approach~~es~~ the target voltage~~formation potential~~.

31. (new) An apparatus for anodizing a pressed and sintered valve metal anode to a target formation potential, comprising:

a) means for immersing the pressed valve metal anode in an anodizing electrolyte to wet the anode and develop an anode-electrolyte system; and

b) means for subjecting the anode-electrolyte system to pulses of electrical potential that are ramped up from a starting voltage to a target voltage over a formation time,

wherein said anodizing electrolyte is maintained at about 40 degrees Celsius or less during the anodizing process.

32. (new) An apparatus according to claim 31, further comprising means for agitating the electrolyte.

33. (new) An apparatus according to claim 32, wherein the means for agitating further comprises means for subjecting the electrolyte to sound energy at a frequency in the range from ultrasonic frequencies to audible frequencies during selected time intervals.

34. (new) An apparatus according to claim 31, wherein the means for subjecting the anode-electrolyte system to pulses of electrical potential further comprises means for subjecting the anode-electrolyte to pulses of constant amplitude electrical current until the pulse amplitude of the electrical potential reaches the target voltage.

35. (new) An apparatus according to claim 31, further comprising:

means for delivering the pulses of electrical potential and a series of pulses of electrical current having pulse amplitudes and pulse widths to the anode-electrolyte system; and

means for decreasing the peak height of the series of pulses of electrical current as the amplitude of the pulses of electrical potential approach the target voltage.

36. (new) An apparatus according to claim 31, wherein the means for subjecting further comprises:

means for delivering the pulses of electrical potential to the anode-electrolyte system for a predetermined hold time after achievement of the target voltage until the flow of electrical current through the anode-electrolyte system has dropped to a predetermined level.

37. (new) An apparatus according to claim 31, further comprising:

means for delivering the pulses of electrical potential having a pulse amplitude, and a frequency to the anode-electrolyte system; and

means for modifying the pulse width and the pulse frequency as the pulse amplitude approaches the target voltage.

38. (new) A computer readable medium for storing executable instructions for performing a method of anodizing a pressed and sintered valve metal anode to a target formation potential, comprising:

a) Instructions for immersing the pressed valve metal anode in an anodizing electrolyte to wet the anode and develop an anode-electrolyte system; and

b) instructions for subjecting the anode-electrolyte system to pulses of electrical potential that are ramped up from a starting voltage to a target voltage over a formation time,

wherein said anodizing electrolyte is maintained at about 40 degrees Celsius or less during the anodizing process.

39. (new) A medium according to claim 38, further comprising:

instructions for delivering the pulses of electrical potential and a series of pulses of electrical current having pulse amplitudes and pulse widths to the anode-electrolyte system; and

instructions for decreasing the peak height of the series of pulses of electrical current as the amplitude of the pulses of electrical potential approach the target voltage.

40. (new) A medium according to claim 38, wherein the instructions for subjecting further comprises:

instructions for delivering the pulses of electrical potential to the anode-electrolyte system for a predetermined hold time after achievement of the target voltage until the current flow through the anode-electrolyte system has dropped to a predetermined level.